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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,387	11/25/2003	John W. Simmons	Serie 6377	7955
40582	7590	03/28/2005	EXAMINER	
AIR LIQUIDE			SPITZER, ROBERT H	
2700 POST OAK BOULEVARD, SUITE 1800			ART UNIT	
HOUSTON, TX 77056			PAPER NUMBER	

1724

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/723,387	<b>Applicant(s)</b> SIMMONS ET AL.	
	<b>Examiner</b> Robert H. Spitzer	<b>Art Unit</b> 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/30/04, 12/20/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

*20*

### DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-26, 35 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite because in step c, line 1, there is no direct antecedent basis for the recitation of "said gaseous feed mixture of at least two or more gas components", and in the formula, there is no definition of the letter "R<sub>1</sub>". Claim 3 is indefinite because it recites "the feed mixture further comprises at least hydrogen and methane" without any correlation to "a feed mixture of two or more gases" previously recited in claim 1. Claim 4 is indefinite because it recites "the feed mixture comprises at least carbon dioxide and methane" without any correlation to "a feed mixture of two or more gases" previously recited in claim 1. Likewise, claim 5 is indefinite because it recites "the feed mixture further comprises at least nitrogen and methane". Claim 8 is also indefinite because of the recitation of "said feed mixture further comprises at least one olefin and at least one paraffin". Claim 9 is indefinite because there is no previous definition of the letter "R<sub>1</sub>". Claim 10 is indefinite because it refers to "formula (Q)", "formula (S)" and "formula (T)", however, none of those formulas appear in either claim 1 or claim 9. Claim 11 is indefinite because there is no definition of letter "R<sub>1</sub>". Claim 15 is indefinite because it recites "at least one C<sub>5+</sub> hydrocarbon" without any correlation to the identical recitation in claim 1. Claim 16 is indefinite because there is no definition of the following letters: R<sub>2</sub>, Ar', R<sub>a</sub>, R<sub>b</sub>, X, X<sub>1</sub>, X<sub>2</sub> and

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X<sub>3</sub> in the recited formulas. Claim 20 is indefinite because it recites "the feed mixture comprises at least hydrogen and methane" without any correlation to "a feed mixture of two or more gases" previously recited in claim 16. Likewise, claim 21 is indefinite because it recites "the feed mixture comprises at least carbon dioxide and methane"; and, claim 22 is indefinite because it recites "the feed mixture comprises at least nitrogen and methane". Claim 23 is indefinite because it recites a Markush group of gases without any correlation to "a feed mixture of two or more gases" previously recited in claim 16. Claim 26 is indefinite because it recites "at least one C<sub>5+</sub> hydrocarbon component" without any correlation to the identical recitation in claim 16. Claim 35 is indefinite because it recites "two permeators" without any correlation to the "at least two permeators" previously recited in claim 34, and because there is no direct antecedent basis for the recitation of "the average performance". Claim 36 is indefinite for the same reason as claim 35 with respect to the recitation of "two permeators", and because there is no direct antecedent basis for the recitation of "the carbon dioxide/nitrogen selectivity ratio". Claims 2,6,7,12-14,17-19,24 and 25 are indefinite because they depend from the above indefinite claims.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by the disclosure of either one of the following references as applied in the EPO Search Report: GB 1,435,151 or EP 0,732,143 or Alegranti (4,113,628).

5. The remaining references listed on the PTO-1449 and those cited on the PTO-892 show art of interest.

6. Applicants' response to this Office action should also include the following editorial changes: page 16, line 6, "group of consisting of" should be "group consisting of"; page 24, line 6, "group of consisting of" should be "group consisting of"; page 28, line 6, "in to" should be "into"; page 30, lines 13 and 21, "permeators" should be "permeator"; page 31, line 14, "about33%" should be "about 33%"; and, page 34, line 20, "Example 1d and 1e" should be "Examples 1d and 1e".

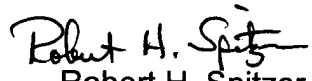
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H. Spitzer whose telephone number is (571) 272-1167. The examiner can normally be reached on Monday-Thursday from (5:30AM-4:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 21, 2005

  
Robert H. Spitzer  
Primary Examiner  
Art Unit 1724  
March 21, 2005